

Responsive Management



NEW JERSEY ANGLERS' PARTICIPATION IN FISHING, HARVEST SUCCESS, AND OPINIONS ON FISHING REGULATIONS

**Conducted for the New Jersey Division of Fish and Wildlife
by Responsive Management**

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EXECUTIVE SUMMARY

INTRODUCTION AND METHODOLOGY

This study was conducted for the New Jersey Division of Fish and Wildlife (NJDFW) to determine anglers' participation in fishing, harvest, and opinions on fishing regulations and fishing programs. The study entailed a telephone survey of licensed anglers in New Jersey. For the survey, telephones were selected as the preferred sampling medium because of the universality of telephone ownership.

The telephone survey questionnaire was developed cooperatively by Responsive Management and NJDFW. Interviews were conducted Monday through Friday from 9:00 a.m. to 9:00 p.m., Saturday noon to 6:00 p.m., and Sunday from 3:00 p.m. to 7:00 p.m., all local time. The survey was conducted in August 2003. A total of 806 completed interviews were obtained.

The software used for data collection was Questionnaire Programming Language 4.1 (QPL). The analysis of data was performed using Statistical Package for the Social Sciences (SPSS) software. Throughout this report, findings of the telephone survey are reported at a 95% confidence interval. For the entire sample of New Jersey licensed anglers, the sampling error is at most plus or minus 3.44 percentage points.

LICENSE AND STAMP PURCHASING

- A majority of 2002 fishing license holders purchased a fishing license in 2001, and a majority plans to purchase or has already purchased a license in 2003. A little less than half of licensed anglers purchased a trout stamp in New Jersey in 2002.
- Time limitations, either because of work obligations or family obligations, were the most important factors in licensed anglers' decisions to *not* purchase a 2003 fishing license. In contrast, those who did not purchase a trout stamp in 2002 made that decision because of lack of interest in trout fishing; work and family obligations were not important factors.
- Most commonly, anglers had not purchased a trout stamp in the past 5 years. However, of those who purchased a trout stamp, they most commonly did so each of the past 5 years.

FISHING PARTICIPATION, ICE FISHING, PEOPLE FISHED WITH, AND LOCATIONS OF FISHING

Initiation into Fishing

- A majority of licensed anglers were introduced to fishing by their father, distantly followed by friend/coworker. A large majority of licensed anglers were 15 years old or younger when they were introduced to fishing.

Motivations for Fishing

- Catching fish was not a great motivation to go fishing; instead, relaxation, for the sport, to be with friends and family, and to be close to nature were the top reasons.

Years/Days Fishing

- Most licensed anglers are quite devoted to the sport long-term, having fished for more than 25 years.
- Licensed anglers most commonly fished for less than 30 days in New Jersey in 2002, with a plurality saying that they had fished for 1-9 days.

Ice Fishing

- A majority of licensed anglers had not ice fished. Most of those who had ice fished are relatively new at the sport. Typically, anglers do not ice fish each year, and otherwise they ice fish fewer than 10 days per year.

Fishing in Tournaments

- An overwhelming majority of licensed anglers had not participated in any freshwater fishing tournaments in New Jersey in 2002.

Trips to Fish

- Most respondents usually travel for no more than an hour (one way) to the places that they fish most often in New Jersey.

Locations of Fishing

- Typically, licensed anglers took fewer than 10 trips to fish in reservoirs/large lakes, small lakes/ponds, or rivers/streams. Indeed, in each case a plurality said that they took no trips to these locations.
- Shoreline fishing was more popular than fishing from a boat. Typically, licensed anglers took 1-9 trips fishing from a shoreline or fishing from a boat.

Fishing on the Delaware River

- Large majorities did *not* fish for shad, largemouth bass, or smallmouth bass on the Delaware River in 2002.
- Of those who fished for bass in April, May, or June (i.e., the spawning season) on the Delaware River, a large majority supported a catch-and-release only season on the Delaware River.

People Fished With and Their Likely Future Participation

- Licensed anglers typically fish with a friend/coworker, a son or daughter, or by themselves.
- A majority of licensed anglers have children, and a majority of those with children took them fishing in 2002. Additionally, a majority of those who took children fishing think that the children will likely continue fishing as mid to late teenagers.
- Slightly less than half of licensed anglers took another person's children fishing in 2002. A majority of those who took another person's children fishing think that the children will likely continue fishing as mid to late teenagers.
- A majority of licensed anglers know of a friend or relative who is not otherwise interested in fishing but who would be interested in fishing for a day if that person did not have to purchase a fishing license.

Membership in Fishing Clubs

- An overwhelming majority of licensed anglers do not belong to any fishing club or organization. Otherwise, B.A.S.S. is the most popular club, followed by unspecified local angling clubs and Trout Unlimited.

SPECIES FISHED FOR, TRIPS TO FISH FOR THAT SPECIES, SATISFACTION, AND HARVEST

- The most common species for which anglers fished in 2002 was bass and trout.
- The tabulation below summarizes the mean number of each species caught and kept (in alphabetical order by species). The highest mean numbers caught were for brook, brown, or rainbow trout (35.15), largemouth bass (32.05), crappie (25.45), and pickerel (20.17). The highest mean number kept, however, differs: brook, brown, or rainbow trout (9.85) and pickerel (7.74). Despite the large numbers caught, anglers did not keep much of the bass, channel catfish, pickerel, or northern pike that they caught.

Species	Mean Number Caught	Mean Number Kept
Bass, Largemouth	32.05	0.63
Bass, Smallmouth	14.14	0.37
Bass, Striped (Freshwater)	9.54	1.33
Bass, Striped Hybrid	5.99	0.34
Catfish, Channel	13.72	1.41
Crappie	25.45	7.74
Muskellunge/Tiger Muskie	1.89	0.00
Pickerel	20.17	0.25
Pike, Northern	6.27	0.36
Trout (Brook, Brown, or Rainbow)	35.15	9.85
Walleye	5.15	1.34

- When satisfaction ratings of the species fished for were examined relative to each other, the greatest satisfaction was with fishing for both types of bass, all types of trout, pickerel, and both types of catfish; the lowest satisfaction was for pike, muskellunge/tiger muskie, and walleye.

Catfish/Bullhead Fishing

- Typically, anglers took from 1-9 trips to fish for catfish/bullheads. A majority of catfish/bullhead anglers were satisfied with their catfish/bullhead fishing in 2002.

Channel Catfish Fishing

- Typically, anglers took from 1-9 trips to fish for channel catfish. A majority of channel catfish anglers were satisfied with their channel catfish fishing in 2002.
- Among all licensed anglers, satisfaction was greater than dissatisfaction regarding opportunities to fish for channel catfish.
- Typically, anglers caught from 1-9 channel catfish or they caught none. Typically, anglers kept no channel catfish.

Crappie Fishing

- Typically, anglers took from 1-9 trips to fish for crappie. A majority of crappie anglers were satisfied with their crappie fishing in 2002.
- Typically, anglers caught from 1-9 crappie or they caught none. Typically, anglers kept no crappie.

Lake Trout Fishing

- Typically, anglers took from 1-9 trips to fish for lake trout. A majority of lake trout anglers were satisfied with their lake trout fishing in 2002.

Largemouth Bass Fishing

- Typically, anglers took from 1-9 trips to fish for largemouth bass. A majority of largemouth bass anglers were satisfied with their largemouth bass fishing in 2002.
- Typically, anglers caught from 1-9 largemouth bass or they caught none. Typically, anglers kept no largemouth bass.

Northern Pike Fishing

- Typically, anglers took from 1-9 trips to fish for northern pike. A majority of northern pike anglers were satisfied with their northern pike fishing in 2002.
- Among all licensed anglers, satisfaction was greater than dissatisfaction regarding opportunities to fish for northern pike.
- Typically, anglers caught no northern pike or they caught from 1-9 of them. Typically, anglers kept no northern pike.

Muskellunge/Tiger Muskie Fishing

- Typically, anglers took from 1-9 trips to fish for muskellunge/tiger muskie. Slightly less than a majority of muskellunge/tiger muskie anglers were satisfied with their fishing for these species in 2002.
- Among all licensed anglers, satisfaction was greater than dissatisfaction regarding opportunities to fish for muskellunge.
- Among all licensed anglers, satisfaction was greater than dissatisfaction regarding opportunities to fish for tiger muskie.
- Typically, anglers caught no muskellunge/tiger muskie or they caught from 1-9 of them. Typically, anglers kept no muskellunge/tiger muskie.

Pickeral Fishing

- Typically, anglers took from 1-9 trips to fish for pickerel. A majority of pickerel anglers were satisfied with their pickerel fishing in 2002.
- Typically, anglers caught from 1-9 pickerel or they caught none. Typically, anglers kept no pickerel.

Smallmouth Bass Fishing

- Typically, anglers took from 1-9 trips to fish for smallmouth bass. A majority of smallmouth bass anglers were satisfied with their smallmouth bass fishing in 2002.
- Typically, anglers caught from 1-9 smallmouth bass or they caught none. Typically, anglers kept no smallmouth bass.

Striped Bass Fishing in Freshwater

- Typically, anglers took from 1-9 trips to fish for striped bass. A majority of striped bass freshwater anglers were satisfied with their striped bass fishing in freshwater in 2002.
- Typically, anglers caught no striped bass or they caught from 1-9 of them. Typically, anglers kept no striped bass.

Striped Bass Hybrid Fishing

- Typically, anglers took from 1-9 trips to fish for striped bass hybrids. A majority of striped bass hybrid anglers were satisfied with their fishing for striped bass hybrids in 2002.
- Among all licensed anglers, satisfaction was greater than dissatisfaction regarding opportunities to fish for striped bass hybrid.
- Typically, anglers caught no striped bass hybrids or they caught from 1-9 of them. Typically, anglers kept no striped bass hybrids.

Trout Fishing (Brook, Brown, or Rainbow, not Lake Trout) and Trout Regulations

- Typically, anglers took from 1-9 trips to fish for brook, brown, or rainbow trout. Most trout fishing was done in the spring.
- Brook, brown, or rainbow trout anglers typically travel an hour or less to fish for brook, brown, or rainbow trout in New Jersey.

- Most trout anglers did not fish for trout in any special designation trout waters in 2002. Otherwise, Year-round Trout Conservation Areas and Seasonal Trout Conservation Areas were the most popular areas, followed very closely by Fly Fishing Only Areas.
- Trout fishing was most often done in rivers and streams rather than reservoirs or lakes of any size.
- Fishing for stocked trout was much more popular than fishing for wild trout.
- Typically, anglers caught from 1-19 brook, brown, or rainbow trout or they caught none. Typically, anglers kept no trout.
- A majority of brook, brown, or rainbow trout anglers were satisfied with their fishing for these trout species in 2002.
- Satisfaction with trout stocking was higher than dissatisfaction among brook, brown, or rainbow trout anglers.
- Brook, brown, or rainbow trout anglers, in general, supported redistributing trout stocked in large non-trout lakes where returns are very low to smaller lakes, ponds, and streams where returns are much greater. They also, in general, supported increasing the number of designated special regulation trout areas, particularly Seasonal Trout Conservation Areas and Year-round Trout Conservation Areas.

Walleye Fishing

- Typically, anglers took from 1-9 trips to fish for walleye. A majority of walleye anglers were satisfied with their walleye fishing in 2002.
- Among all licensed anglers, satisfaction was greater than dissatisfaction regarding opportunities to fish for walleye.

- Typically, anglers caught no walleye or they caught from 1-9 of them. Typically, anglers kept no walleye.

Yellow Perch Fishing

- Typically, anglers took from 1-9 trips to fish for yellow perch. A majority of yellow perch anglers were satisfied with their yellow perch fishing in 2002.

RATING OF FISHING OPPORTUNITIES AND ACCESS IN NEW JERSEY, RATING OF THE DIVISION OF FISH AND WILDLIFE, AND RATING OF THE BUREAU OF FRESHWATER FISHERIES

- Overall, licensed anglers gave favorable ratings regarding the quality of freshwater fishing and fishing opportunities in New Jersey. Additionally, they generally felt that freshwater fishing has improved or remained about the same over the past 10 years.
- Ratings of the performance of the Bureau of Freshwater Fisheries were generally favorable, as is the clarity of the fishing regulations and the enforcement of freshwater fishing regulations.
- A majority of licensed anglers were satisfied with the NJDFW's efforts to inform and educate anglers and the public about New Jersey's fisheries.
- Licensed anglers were more satisfied with shoreline access than they were with boat access.
- Licensed anglers were evenly split regarding whether access to freshwater fishing areas has improved or declined, although a plurality said that access has remained about the same.
- Licensed anglers are fairly evenly split regarding whether opening water supply reservoirs to shoreline and/or boat fishing would significantly increase the number of trips they take.

FACTORS AFFECTING ENJOYMENT OF FISHING

- Fishing enjoyment is predicated more on the enjoyment of the act of fishing rather than on the actual harvest of fish, with the caveat that respondents wanted to catch at least one fish.

- In an open-ended question (wherein the respondent could give any answer) regarding things that took away from their fishing enjoyment, licensed anglers most often said that nothing took away from their enjoyment; nonetheless, of those who gave a reason, work and family obligations were the top reasons.

RATING OF IMPORTANCE OF DIVISION PROGRAMS

- Of the eight programs about which the survey asked, four programs in particular are perceived to be highly important: improving water quality, improving fisheries habitat, fishing events for kids, and fish stocking programs. Boating access was at the bottom of the list: increasing boat fishing access and improving existing boating access. When forced to choose only one of the eight programs, improving water quality and fishing events for kids were the top programs.

SOURCES OF INFORMATION ABOUT FISHING

- Licensed anglers most commonly obtained information about fishing opportunities in New Jersey through a license agent or sporting goods store, followed by newspapers, magazines, and an Internet site other than the Division's Web site. Direct mail, the Internet, newspapers, and license agents/sporting goods stores are perceived by licensed anglers as the best ways to provide them with information.
- Most licensed anglers did not find it difficult to obtain information regarding fishing opportunities in New Jersey.
- Roughly a third of respondents had visited the Division's Web site in 2002. Typically, licensed anglers visit the Division's Web site no more than once per year. Those who did not visit the Web site commonly said it was because of their lack of a computer.
- Most licensed anglers had not heard of the Manasquan River Sea Run Brown Trout Program.

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INTRODUCTION AND METHODOLOGY

This study was conducted for the New Jersey Division of Fish and Wildlife (NJDFW) to determine anglers' participation in fishing, harvest, and opinions on fishing regulations and fishing programs. The study entailed a telephone survey of licensed anglers in New Jersey. Specific aspects of the research methodology are discussed below.

For the survey, telephones were selected as the preferred sampling medium because of the universality of telephone ownership. In addition, a central polling site at the Responsive Management office allowed for rigorous quality control over the interviews and data collection. Responsive Management maintains its own in-house telephone interviewing facilities. These facilities are staffed by interviewers with experience conducting computer-assisted telephone interviews on the subjects of natural resources and outdoor recreation. The telephone survey questionnaire was developed cooperatively by Responsive Management and NJDFW. Responsive Management conducted a pre-test of the questionnaire, and revisions were made to the questionnaire based on the pre-test.

To ensure that the telephone survey data collected were of the highest quality, Responsive Management has interviewers who have been trained according to the standards established by the Council of American Survey Research Organizations. Methods of instruction included lecture and role-playing. The Survey Center Managers conducted project briefings with the interviewers prior to the administration of the survey. Interviewers were instructed on type of study, study goals and objectives, handling of survey questions, interview length, termination points and qualifiers for participation, interviewer instructions within the survey instrument, reading of the survey instrument, skip patterns, and probing and clarifying techniques necessary for specific questions on the survey instrument. The Survey Center Managers randomly monitored telephone workstations without the interviewers' knowledge to evaluate the performance of each interviewer. After the surveys were obtained by the interviewers, the Survey Center Managers and/or statisticians edited each completed survey to ensure clarity and completeness.

Interviews were conducted Monday through Friday from 9:00 a.m. to 9:00 p.m., Saturday noon to 6:00 p.m., and Sunday from 3:00 p.m. to 7:00 p.m., all local time. A five-callback design was used to maintain the representativeness of the sample, to avoid bias toward people easy to reach by telephone, and to provide an equal opportunity for all to participate. When a respondent could not be reached on the first call, subsequent calls were placed on different days of the week and at different times of the day. The survey was conducted in August 2003. A total of 806 completed interviews were obtained.

The software used for data collection was Questionnaire Programming Language 4.1 (QPL). The survey data were entered into the computer as each interview was being conducted, eliminating manual data entry after the completion of the survey and the concomitant data entry errors that may occur with manual data entry. The survey instrument was programmed so that QPL branched, coded, and substituted phrases in the survey based on previous responses to ensure the integrity and consistency of the data collection. The analysis of data was performed using Statistical Package for the Social Sciences (SPSS) software. SPSS is a software package that is specifically designed for quantitative statistical analyses.

Throughout this report, findings of the telephone survey are reported at a 95% confidence interval. For the entire sample of New Jersey licensed anglers, the sampling error is at most plus or minus 3.44 percentage points. This means that if the survey were conducted 100 times on different samples that were selected in the same way, the findings of 95 out of the 100 surveys would fall within plus or minus 3.44% of each other. Sampling error was calculated using the formula described below, with a sample size of 806 and a population size of 160,292.

Sampling error equation:

$$B = \left(\sqrt{\frac{N_p(.25)}{N_s} - .25} \right) (1.96)$$

Where: B = maximum sampling error (as decimal)

N_p = population size (total number of license holders)

N_s = sample size

Derived from formula: p. 206 in Dillman, D. A. 2000. *Mail and Internet Surveys*. John Wiley & Sons, NY.

Note: This is a simplified version of the formula that calculates the maximum sampling error using a 50:50 split (the most conservative calculation because a 50:50 split would give maximum variation).

Note that some sums (e.g., when “very likely” and “somewhat likely” are summed to determine the total percentage answering “likely”) may appear to be off as much as 1 or 2 percentage points, and some graphs may not sum to 100%, because of rounding.

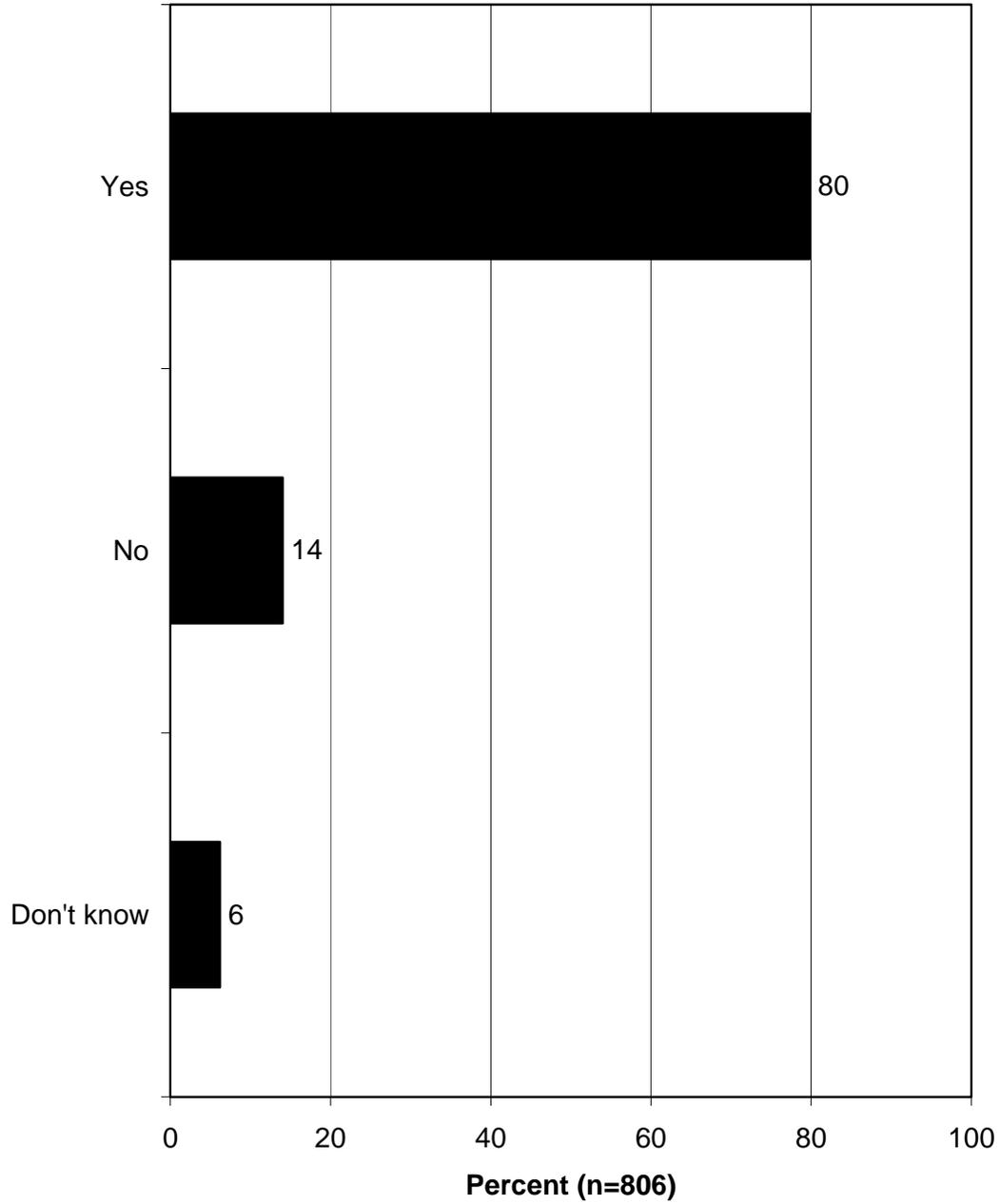
LICENSE AND STAMP PURCHASING

- A majority of 2002 fishing license holders purchased a fishing license in 2001, and a majority plans to purchase or has already purchased a license in 2003. A little less than half of licensed anglers purchased a trout stamp in New Jersey in 2002.
 - 80% purchased a license in 2001.
 - 79% have already purchased (57%) or plan to purchase (22%) a fishing license in 2003.
 - 47% purchased a trout stamp in 2002.

- Time limitations, either because of work obligations or family obligations, were the most important factors in licensed anglers' decisions to *not* purchase a 2003 fishing license. In contrast, those who did not purchase a trout stamp in 2002 made that decision because of lack of interest in trout fishing; work and family obligations were not important factors.
 - 44% said that work obligations and 29% said family obligations are the main reasons that they do not plan to purchase a 2003 fishing license.
 - 60% said that they did not purchase a trout stamp in 2002 because they were not interested, and another 10% said that they did not purchase a stamp because they do not fish for trout; only 5% cited work obligations and 2% cited family obligations.

- Most commonly, anglers had not purchased a trout stamp in the past 5 years. However, of those who purchased a trout stamp, they most commonly did so each of the past 5 years.
 - 38% had not purchased a trout stamp any of the past 5 years.
 - 29% purchased a trout stamp each of the past 5 years.

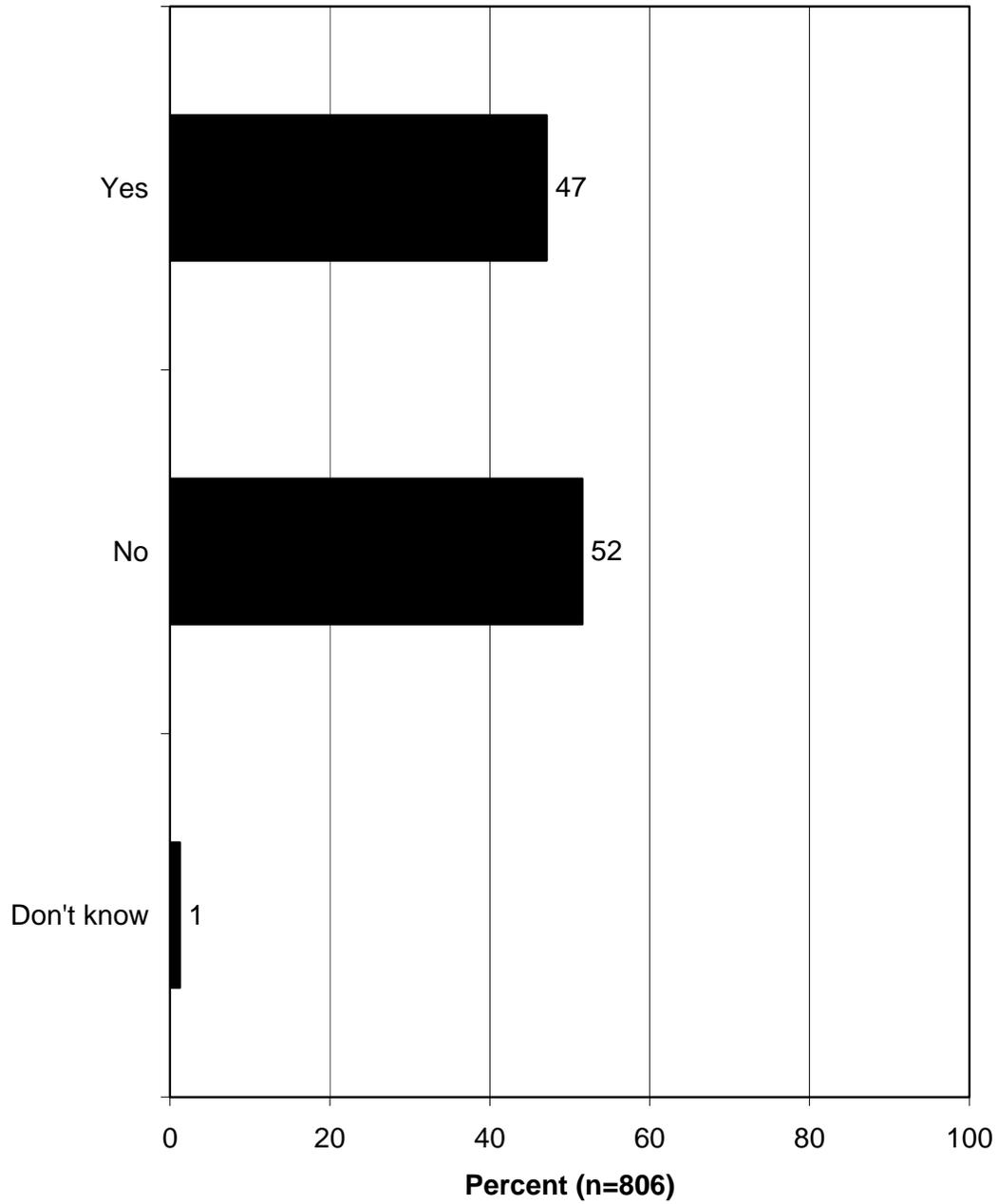
Q8. Did you purchase a 2001 New Jersey fishing license?



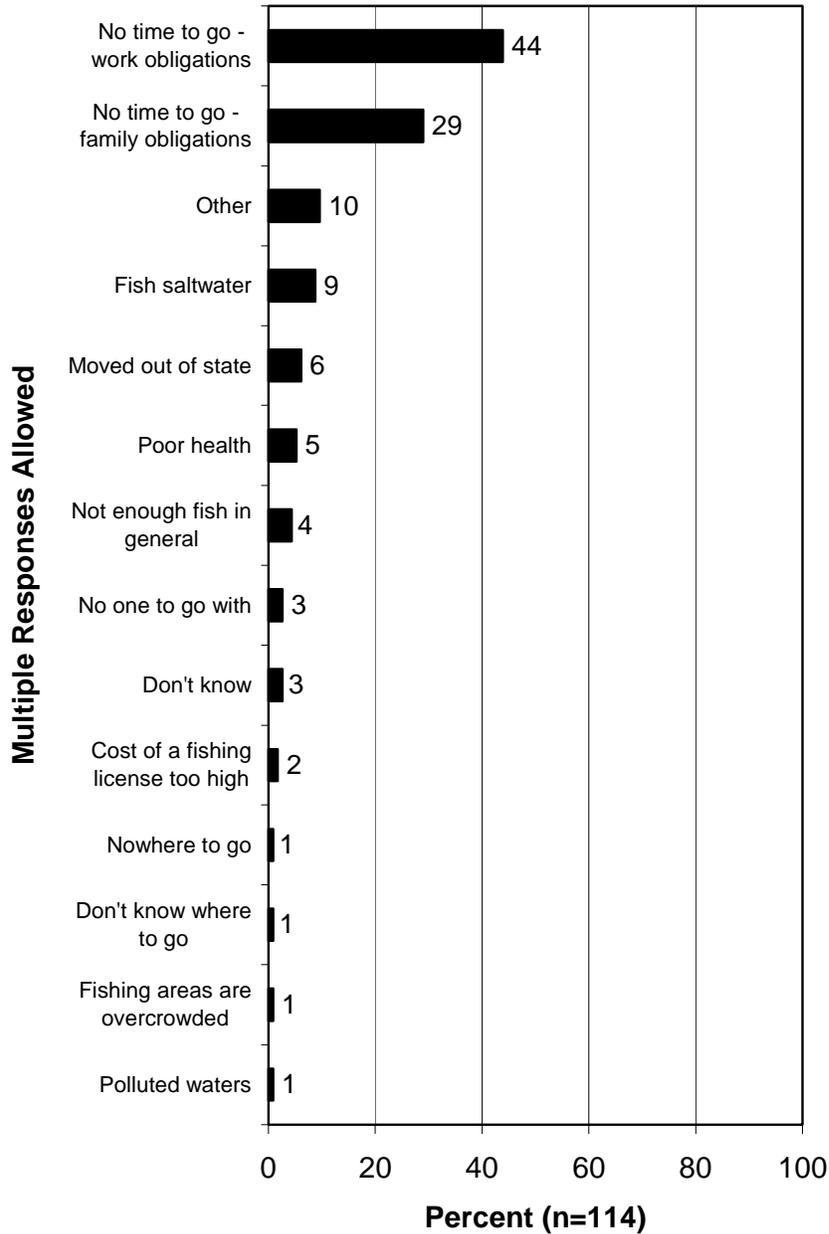
Q9. Have you purchased or are you going to purchase a 2003 New Jersey fishing license?



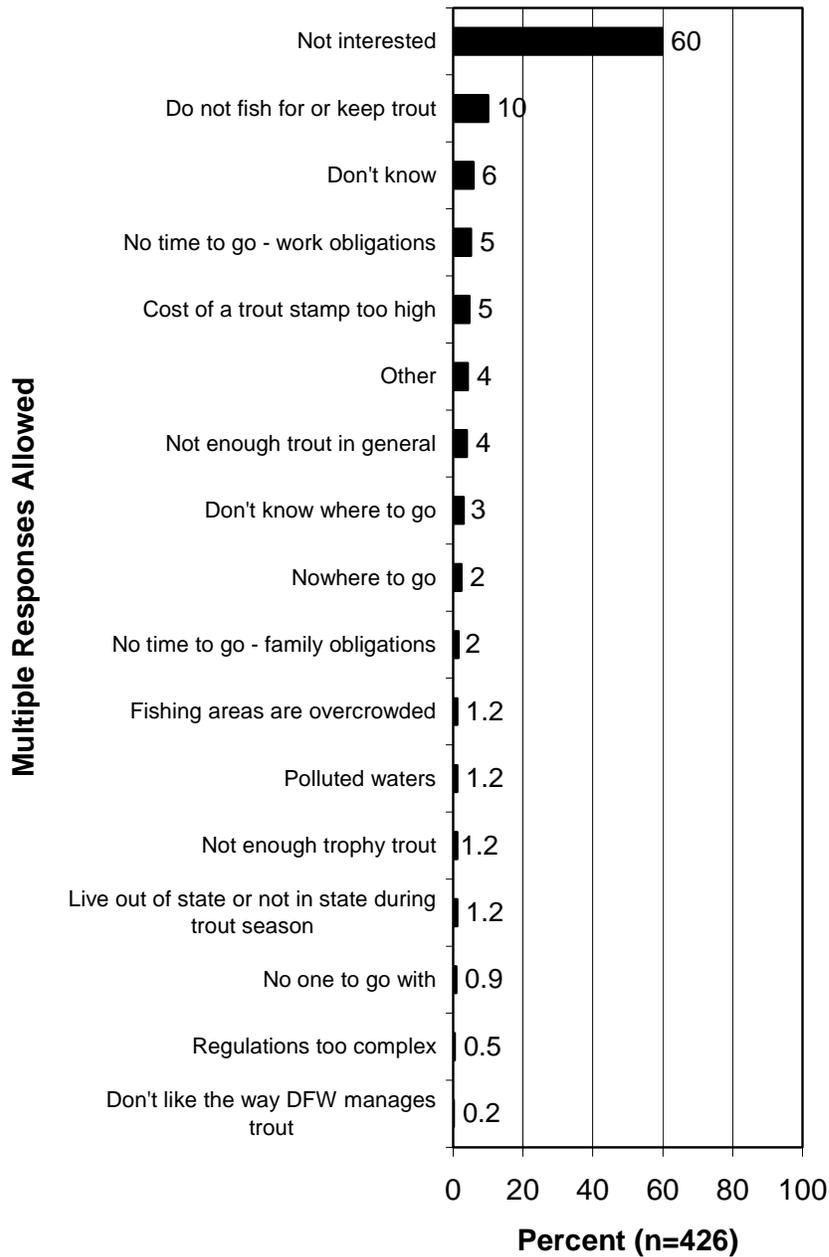
Q13. Did you purchase a trout stamp in New Jersey in 2002?



**Q11. What are the main reasons you do not plan to purchase a 2003 fishing license in New Jersey?
(Asked of those who do not plan to purchase a license in 2003.)**



Q15. What are the main reasons you did not buy a trout stamp in New Jersey in 2002? (Asked of those who did not buy a trout stamp in 2002.)



Q17. Out of the past 5 years, how many years did you purchase a trout stamp in New Jersey?

